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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,210

08/02/2006

Bardo Schmitt

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12/06/2007

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EXAMINER

REDDY, KARUNA P

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

12/06/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/588,210

Applicant(s)

SCHMITT ET AL.

Examiner

Karuna P. Reddy

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☒ Claim(s) 13 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date ____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Supplemental Office Action

1. Upon reconsideration, the indicated allowability of claim 13 in the action mailed 9/11/2007 is withdrawn in light of the combination of prior art references of Smith, Maruyama and Momoda which renders claim 13 prima facie unpatentable for the reasons set forth in paragraph 2 below. The delay in setting forth this rejection is regretted.

It is noted that the time period for response is being restarted.

Claim Rejections - 35 USC § 103

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (US 6, 342, 571 B1) in view of Maruyama et al (US 5, 270, 439) and Momoda et al (US 6, 698, 883 B2).

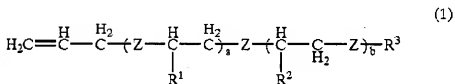
The discussion with respect to Smith et al in view of Maruyama et al in paragraph 11, of office action mailed 9/11/2007, is incorporated here by reference.

Smith et al in view of Maruyama et al is silent with respect to allyl polyethylene glycol methacrylate.

However, Momoda et al teach that when a combination of particular allyl ether or allythio ether compound and other radically polymerizable monomer, is mixed with a photochromic compound, the obtained curable composition exhibits

excellent photochromic properties as well as excellent base material properties such as high hardness and high heat resistance (column 2, lines 22-37). The present invention is concerned with a curable composition comprising (column 2, lines 38-55).

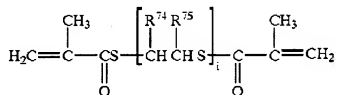
(A) an allyl ether or allylthio ether compound represented by the following general formula (1),



wherein R^1 and R^2 are, independently from each other, hydrogen atoms or alkyl groups, R^3 is an alkyl group, an acyl group, an acryloyl group, a methacryloyl group, a vinyl group or a styryl group, Z is an oxygen atom or a sulfur atom, and a and b are, independently from each other, from 0 to 20 in average, $a+b$ being from 3 to 20;

Many of the existing curable compositions that have been known for their relatively excellent photochromic properties exhibit low hardness and low heat resistance even after curing. However, curable composition using the above mentioned particular monomer does not permit the hardness and heat resistance to decrease greatly after it has been cured. Concrete examples of the allyl ether compound that can be used include methacryloxypolyethylene glycol allyl ether, methacryloxypolyethylene glycol-polypropylene glycol allyl ether and

acryloxypolyethylene glycol allyl ether (column 3, lines 59-60; column 4, lines 1-17). It is desired that the other radically polymerizable monomer is polymerized with a bifunctional or polyfunctional polymerizable monomer herein after referred to as a "high hard monomer" (column 4, lines 27-30). Examples of high hard monomers include those represented by the general formula 6 depicted below -



wherein R^{74} and R^{75} may be same or different, and are hydrogen atoms or methyl groups and "i" is an integer of from 1 to 10 (column 9, lines 8-10). The cured products obtained from the above compound, represented by general formula 6, exhibits high refractive indexes of not less than 1.56 and high Abbe numbers, lending themselves well for obtaining photochromic lenses. Therefore, it would have been obvious to add allyl ether compounds such as methacryloxypolyethylene glycol allyl ether (reads on allyl polyethylene glycol methacrylate of present claim) to the composition of Smith et al in view of Maruyama et al, for above mentioned advantages.

3. In addition to the above, obviousness-type double patenting rejection of claims 1-21, 26-27 and 1, 7, 11-17, 23-27 in paragraphs 3 and 4 respectively; objection to claims 13 and 15 in paragraph 5; rejection of claims 23 and 25-26 in paragraphs 8 and 7 respectively; rejection of claims 1-12 and 14-27 in paragraph 11, of office action mailed 9/11/2007, is in effect.

/Karuna Reddy/
12/03/2007

/Vasu Jagannathan/
Supervisory Patent Examiner
Technology Center 1700